

embodiment of the present invention;

Fig. 2 is a flow chart showing a method of receiving a digital broadcast signal according to the first embodiment;

5 Fig. 3 is an explanatory view showing the digital broadcast signal demultiplexed to audio data, HDTV picture, contents of data broadcast signal and electronic program guide.

Fig. 4 is a block diagram showing the configuration of
10 a conventional digital broadcast receiving device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Embodiments of the present invention will now be described with reference to the accompanying drawings.

15 EMBODIMENT 1

Fig. 1 is a block diagram showing the configuration of a digital broadcast receiving device according to a first embodiment of the present invention.

In Fig. 1, 11 indicates a personal computer. 12 indicates
20 a receiving board (or receiving means), set into a slot of the personal computer 11, for receiving a digital broadcast signal of programs such as an HDTV picture, audio data, contents of a data broadcast signal and an electronic program guide and decoding the programs of the digital broadcast signal. In the receiving board 12, 13 indicates a tuner for receiving the digital broadcast signal. 14 indicates a demultiplexer for demultiplexing a program of the HDTV picture from the digital broadcast signal. 15 indicates an audio decoder for decoding the audio data of
25 the digital broadcast signal. 16 indicates a picture
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decoder for decoding the HDTV picture of the digital broadcast signal. The tuner 13, the demultiplexer 14, the audio decoder 15 and the picture decoder 16 are mounted on the receiving board 12.

5 Also, in the personal computer 11, 18 indicates a storing unit for storing data and calculation results in the personal computer 11. 19 indicates a graphic card for producing an output picture of the personal computer 11. 20 indicates a peripheral component interconnect (PCI) bus 10 of the personal computer 11. A data transfer rate of the PCI bus 20 is low, and the HDTV picture cannot be transmitted through the PCI bus 20 in real time. 21 indicates a selector switch for selecting either the HDTV picture decoded in the picture decoder 16 of the receiving board 12 or the output picture of the personal computer 11 produced in the graphic card 19. 17 indicates a central processing unit (CPU) for controlling the receiving board 12, the storing unit 18, the graphic card 19 and the selector switch 21. 22 indicates a cathode-ray tube (CRT) 20 for displaying the HDTV picture or the output picture selected in the selector switch 21.

Also, 23 indicates an HDTV monitor of a high-definition television set. A display means comprises the selector switch 21, the CRT 22 and the HDTV monitor 23.

25 Next, an operation of the digital broadcast receiving device will be described below with reference to Fig. 2 and Fig. 3.

Fig. 2 is a flow chart showing a method of receiving a digital broadcast signal according to the first embodiment, 30 and Fig. 3 is an explanatory view showing the digital

broadcast signal demultiplexed to audio data, HDTV picture, contents of data broadcast signal and electronic program guide.

When a digital broadcast signal is received in the tuner

5 13 of the receiving board 12 (step ST1), programs multiplexed in the digital broadcast signal are demultiplexed in the demultiplexer 14 (step ST2).

In detail, as shown in Fig. 3, because programs such as an HDTV picture, audio data, contents of a data broadcast 10 signal and an electronic program guide are multiplexed in the digital broadcast signal, the programs of the digital broadcast signal is demultiplexed to an HDTV picture, audio data, contents of a data broadcast signal and an electronic program guide.

15 Thereafter, in the picture decoder 16, the HDTV picture is received, the HDTV picture is decoded, and the HDTV picture is directly output to the selector switch 21 without passing through the PCI bus 20 (step ST3).

Also, an output picture of the personal computer 11 is 20 produced in the graphic card 19, and the output picture of the personal computer 11 is sent to the selector switch 21 under the control of the CPU 17. In the selector switch 21, either the HDTV picture sent from the picture decoder 16 or the output picture of the personal computer 11 sent 25 from the graphic card 19 is selected, and the HDTV picture or the output picture selected in the selector switch 21 is directly output to the CRT 22 or the HDTV monitor 23 without passing through the PCI bus 20 (step ST4).

Therefore, the HDTV picture is directly displayed on the 30 CRT 22 of the personal computer 11 or the HDTV monitor 23